

Claims

1. A method for distributing multimedia content in an electronic media distribution system, the media distribution device having a content provider device and at least one player device, comprising the steps of:

5 providing active hidden data, where the active hidden data comprises a set of executable machine instructions;

embedding active hidden data into a host data signal, thereby forming an embedded data signal;

transferring the embedded data signal from the content provider device to the player device;

10 extracting the active hidden data from the embedded data signal on the player device; and

executing the active hidden data on the player device.

2. The method of Claim 1 further comprising the steps of:

providing control data that governs the use of the active hidden data;

5 embedding the control data into the embedded data signal prior to transmitting the embedded data signal; and

using the control data to ensure the errorless extractability of the active hidden data from the embedded data stream prior to executing the active hidden data on the player device.

3. The method of Claim 2 wherein the step of embedding the control data further comprises embedding the control data orthogonal to the active hidden data in the embedded data stream.

4. The method of Claim 3 wherein the orthogonal aspect of the host data signal are orthogonal features in the same domain or features extracted from two or more orthogonal domains.

5. The method of Claim 2 further comprises the steps of:
defining at least a portion of the control data as error correction data;

extracting the error correction data from the embedded data stream after extracting the active hidden data; and

modifying the active hidden data using the error correction data prior to executing the active hidden data, thereby providing the set of executable machine instructions.

6. The method of Claim 2 further comprising the steps of defining at least a portion of the control data as authentication data, and authenticating the embedded data stream using the authentication data prior to extracting the active hidden data.

7. The method of Claim 1 further comprises the step of encrypting the active hidden data prior to embedding the active hidden data into the host data signal.

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8. A method for distributing active hidden data in an electronic media distribution system, the media distribution device having a content providing device and at least one player device, comprising the steps of:

5 providing active hidden data and control data, wherein the active hidden data comprises a set of executable machine instructions and the control data governs the use of the active hidden data;

embedding the active hidden data and the control data into a host data stream, thereby forming an embedded data stream

10 transferring the embedded data stream from the content providing device to the player device;

extracting the active hidden data from the embedded data stream on the player device;

using the control data to ensure the errorless extractability of the active hidden data from the embedded data stream; and

15 executing the active hidden data on the player device when the active hidden data is extracted without error from the embedded data stream.

9. The method of Claim 8 wherein the step of embedding the active hidden data and the control data further comprises embedding the active hidden data orthogonal to the control data in the embedded data stream.

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10. The method of Claim 8 wherein the step of embedding the active hidden data and the control data further comprises using at least one of base domain embedding scheme or spectrum domain embedding scheme.

11. The method of Claim 9 wherein the orthogonal aspect of the host data signal are orthogonal signal features in the same domain or signal features extracted from two or more orthogonal domains.

12. The method of Claim 8 further comprises the steps of:
defining at least a portion of the control data as error correction data;

extracting the error correction data from the embedded data stream after extracting the active hidden data; and

modifying the active hidden data using the error correction data prior to executing the active hidden data, thereby providing the set of executable machine instructions.

13. The method of Claim 8 further comprising the steps of defining at least a portion of the control data as authentication data, and authenticating the embedded data stream using the authentication data prior to extracting the active hidden data.

14. The method of Claim 8 further comprising the steps of encrypting the active hidden data prior to embedding the active hidden data into the host data signal and decrypting the active hidden data prior to executing the active hidden data on the player device.

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15. An electronic media distribution system for distributing active hidden data in a host data stream, the media distribution device having a content providing device and at least one player device, the content provider device comprising:

a bit stream generator receiving active hidden data and converting the active hidden data into an active bit stream, wherein the active hidden data comprises a set of executable machine instructions;

a first encoder receiving the active bit stream and the host data stream and embedding the active bit stream into the host data stream, thereby forming an embedded data stream; and

a second encoder receiving control data and the embedded data stream and embedding the control data into the embedded data stream, wherein the control data is used to govern the use of the active hidden data.

16. The media distribution system of Claim 15 wherein the second encoder embeds the control data orthogonal to the active bit stream in the embedded data stream.

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17. The media distribution system of Claim 15 wherein the orthogonal aspect of the host data stream are orthogonal signal features in the same domain or signal features extracted from two or more orthogonal domains.

Sub C) 18. The media distribution system of Claim 15 wherein the first encoder embeds the active bit stream and the second encoder embeds the control data in accordance with either a base domain embedding scheme or spectrum domain embedding scheme.

19. The media distribution system of Claim 15 wherein at least a portion of the control data is defined as error correction data and the correction module modifies the active bit stream using the error correction data, thereby providing the set of executable machine instructions on the
5 player device.

20. The media distribution system of Claim 15 wherein the player device comprises:

a first decoder receiving the embedded data stream and extracting the control data from the embedded data stream;

5 a second decoder receiving the embedded data stream from the first decoder and extracting the active bit stream;

a correction module receiving the active bit stream and the control data, and using the control data to ensure errorless extractability of the active bit stream from the embedded data stream; and

10 an initiator for executing the active bit stream on the player device.